

AMENDMENTS TO THE SPECIFICATION

In the title:

Please amend the title to read as follows:

CAPACITANCE TYPE MEMS-MEMS DEVICE, MANUFACTURING
METHOD THEREOF, AND HIGH FREQUENCY DEVICE

Page 20:

Please substitute the following paragraph for the
paragraph beginning at line 14:

The size of the opposed region between the upper electrode and the lower electrode of the capacitance type MEMS device used in this experiment was 200 micrometers × 200 micrometers, same as the size described above. The sizes of the floating metal were set to 100 micrometers × 100 micrometers (25% of the entire portion), 120 micrometers × 120 micrometers (36% of the entire portion), 140 micrometers × 140 micrometers (50% of the entire portion), 150 micrometers × 150 micrometers (56% of the entire portion), and 170 micrometers × 170 micrometers (72% of the entire portion). The structures-structure was formed such that the center of the opposed region matched with the center of the floating metal as viewed in the vertical direction.

Page 21:

Please substitute the following paragraph for the paragraph beginning at line 15:

As the floating metal is smaller, the operation voltage is lowered as seen in Table 1. It has been found that the device having the floating metal of 150 micrometer square (56% of the entire portion) operated at a voltage of 9 V, which was about 1.5 times compared with the operation voltage of a device not having the floating metal (= 6 V, in the conventional techniques described above). Further, the device having the floating metal of ~~141-140~~ micrometer square (50% of the entire portion) operates at a voltage of 8.7 V.

Page 22:

Please substitute the following paragraph for the paragraph beginning at line 10:

For the devices having the floating metal of 150 micrometer square, one device showed the change of the capacitance value. On the other hand, for the devices having a floating metal of ~~141-140~~ micrometer square, there is no change of the capacitance value. Accordingly, it can

be said that the area of the floating metal is desirably 50% or less of the entire opposed region.

Page 27:

Please substitute the following paragraph for the paragraph beginning at line 7:

The time constant dt , where the amount of charges is $1/e$ ($e = 2.71828$), is represented by the product of C_f and R_f . C_f is the capacitance value between the floating metal and the earth, R_f is the resistance value of the resistance element used. Since it is necessary that the time constant dt be smaller than the necessary on/off switching time d_{toff} , the relationship of $d_{toff} \gg dt$ should be satisfied. In the case of a switch which operates in a GHz band with a low input signal loss, the relationship of $R_f < 5R - 5M\Omega$ to $20 M\Omega$ should be satisfied since C_f needs to range from 5 pF to 20 pF and the relationship of $d_{toff} < 0.1 \text{ msec}$ is necessary.

Page 66:

Please substitute the following paragraph for the paragraph beginning at line 19:

(22)–(21) A high frequency device in which the capacitance type MEMS device according to any one of

paragraphs (1) to (15) is mounted together with an active device on one substrate.

Please substitute the following paragraph for the paragraph beginning at line 23:

(23) (22) A high frequency device in which the capacitance type MEMS device according to any one of paragraphs (1) to (15) is mounted together with other passive device on one substrate.

Page 67:

Please substitute the following paragraph for the paragraph beginning at line 2:

(24) (23) A method of manufacturing a capacitance type MEMS device at least including

Page 68:

Please substitute the following paragraph for the paragraph beginning at line 24:

(25) (24) A method of manufacturing a capacitance type MEMS device according to the paragraph (20) above, which includes a step of forming a pattern made of a material showing a desired electric resistance value to a desired position above the substrate.

Page 69:

Please substitute the following paragraph for the paragraph beginning at line 4:

{26} (25) A method of manufacturing a capacitance type MEMS device according to the paragraph (20) above, which includes a step of forming a pattern made of a material showing a desired impedance value to a desired position above the substrate.